RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE: February 2000

BUDGET ACTIVITY: 07 - Operational System Development

PE NUMBER AND TITLE: 0207268F Aircraft Engine Component Improvement Program (CIP)

PROJECT: 671012

COST ($ in Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
671012	Aircraft Engine Component Improvement Program	93,338	158,329	166,926	174,127	186,200	211,043	168,638	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

The Aircraft Engine Component Improvement Program (CIP) provides critical sustaining engineering support (only source) for in-service Air Force engines throughout their service life. Aircraft Engine CIP corrects service revealed deficiencies and reduces total ownership costs (RTOC). The program's highest priority is to maintain flight safety, but also improves system Operational Readiness (OR) and Reliability and Maintainability (R&M). Historically, aircraft systems change missions, tactics, and environments to meet changing threats throughout their lives. Numerous new problems can develop in the engines through actual use during deployment, production, and service, and Engine CIP provides the only funds to develop fixes for these field problems. Engine CIP funding is driven by field events and types/maturity of engines, not by the total engine quantity. Engine CIP starts with delivery of the first production engine purchased with procurement funds, and continues over the engine's life, gradually decreasing to a minimum level (safety/depot repairs) sufficient to keep older inventory engines operational. Engine CIP addresses out-of-warranty usage and life and enables the Air Force to obtain additional warranties when manufacturers incorporate Engine CIP improvements into production engines. Since operational and safety problems arise throughout a system's service life, Engine CIP must be maintained at a level to provide the engineering support to make the changes essential for continued satisfactory system performance at affordable costs. Engine CIP ensures continued improvements in engine R&M factors, which reduce outyear support costs. Historically, R&M related Engine CIP efforts reduce outyear Operations and Maintenance (O&M) and spares costs by a ratio greater than 21 to 1. MAJCOMs assume a viable Engine CIP effort is in place when submitting their budget requests for O&M and engine spares. Without the outyear cost avoidance provided by Engine CIP, outyear support funding would have to be increased drastically.

(U) FY 1999 ($ in Thousands)

(U)	$80,215	595 CIP tasks (233 redesign tasks, 293 repair development tasks, and 69 analysis tasks)
(U)	$6,602	4694 test hours
(U)	$6,521	Petroleum, oil, lubricants and other support costs
(U)	$93,338	Total

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(U) A. Mission Description Continued

(U) FY 2000 ($ in Thousands)

(U)	$121,438	774 CIP tasks (294 redesign tasks, 378 repair development tasks, and 102 analysis tasks)
(U)	$24,301	10,500 test hours
(U)	$12,590	Petroleum, oil, lubricants and other support costs
(U)	$158,329	Total

(U) FY 2001 ($ in Thousands)

(U)	$130,810	785 CIP tasks (294 redesign tasks, 378 repair development tasks, and 113 analysis tasks)
(U)	$22,600	12700 test hours
(U)	$13,516	Petroleum, oil, lubricants and other support costs
(U)	$166,926	Total

(U) B. Budget Activity Justification

This program is in budget activity 7 - Operational System Development, Research Category 6.6 because all efforts support fielded systems.

(U) C. Program Change Summary ($ in Thousands)

		FY 1999	FY 2000	FY 2001	Total Cost
(U)	Previous President's Budget (FY 2000 PBR)	96,589	160,212	168,410	TBD
(U)	Appropriated Value	97,069	160,212		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-206	-15		
	b. Small Business Innovative Research	-3,229			
	c. Omnibus or Other Above Threshold Reprogram		-870		
	d. Below Threshold Reprogram	500			
	e. Rescissions	-796	-998		
	f. Other				TBD
(U)	Adjustments to Budget Years Since FY 2000 PBR			-1,484	
(U)	Current Budget Submit/FY 2001 PBR	93,338	158,329	166,926	TBD

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(U) C. Program Change Summary ($ in Thousands) Continued

(U) Significant Program Changes:

FY1999 & FY2000 increase in test hour cost is due to a greater number of engine test hours being performed in altitude facilities.

FY2001 President's Budget Request reflects $1,484K downward adjustment for inflation.

(U) D. Other Program Funding Summary ($ in Thousands)

	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
(U) AF RDT&E									
(U) Other APPN									

RELATED ACTIVITIES:

(U) - PEs # 0604268A and #0604268N, Army/Navy Aircraft Engine CIPs for prior years

(U) - PEs # 0203752A and #0205633N, Army/Navy Aircraft Engine CIPs for FY96 and following years

(U) E. Acquisition Strategy

Contracts within this Program Element are awarded sole source to engine manufacturers. CIP tasks are generally assigned to original engine manufacturers. Tasks are assigned based on available funding and prioritization of candidate tasks.

(U) F. Schedule Profile

	FY 1999				FY 2000				FY 2001			
	1	2	3	4	1	2	3	4	1	2	3	4

(U)

Not applicable. CIP is a level of effort program that funds 700+ separate engineering tasks per year.

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE: February 2000

BUDGET ACTIVITY: 07 - Operational System Development

PE NUMBER AND TITLE: 0207268F Aircraft Engine Component Improvement Program (CIP)

PROJECT: 671012

(U) A. Project Cost Breakdown ($ in Thousands)

		FY 1999	FY 2000	FY 2001
(U)	Contracted Tasks	80,215	121,438	130,810
(U)	AFFTC Flight Tests	886	192	1,700
(U)	AEDC Altitude Tests	5,716	24,109	20,900
(U)	Petroleum/Oil/Lubricants	3,328	10,000	12,016
(U)	Mission Support	3,193	2,590	1,500
(U)	Total	93,338	158,329	166,926

(U) B. Budget Acquisition History and Planning Information ($ in Thousands)

(U) Performing Organizations:

Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1999	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
Product Development Organizations										
GE-Evandale, OH	CPAF	Jan 98	N/A	N/A		43,767	65,016	51,710	Continuing	TBD
Pratt & Whitney	CPAF	Jan 98	N/A	N/A		28,191	45,180	72,350	Continuing	TBD
GE-Lynn, MA	CPFF	Jan 98	N/A	N/A		4,129	4,825	2,900	Continuing	TBD
Allison	CPFF	Jan 98	N/A	N/A		949	900	1,400	Continuing	TBD
Teledyne	CPFF	Jan 98	N/A	N/A		1,979	4,061	1,200	Continuing	TBD
Allied Signal	CPFF	Jan 98	N/A	N/A		505	628	500	Continuing	TBD
Williams	CPFF	Jan 98	N/A	N/A		200	120	250	Continuing	TBD
Sundstrand	CPFF	Jan 98	N/A	N/A		495	708	500	Continuing	TBD
Support and Management Organizations										
In House Support						3,193	2,590	1,500	Continuing	TBD
Petroleum/Oil/ Lubricants						3,328	10,000	12,016	Continuing	TBD

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(U) Performing Organizations Continued:

Test and Evaluation Organizations

AFFTC-Edwards AFB, CA		886	192	1,700	Continuing	TBD
AEDC-Arnold AFB, TN		5,716	24,109	20,900	Continuing	TBD
Subtotals	Total Prior to FY 1999	Budget FY 1999	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program
Subtotal Product Development		80,215	121,438	130,810	TBD	TBD
Subtotal Support and Management		6,521	12,590	13,516	TBD	TBD
Subtotal Test and Evaluation		6,602	24,301	22,600	TBD	TBD
Total Project		93,338	158,329	166,926	TBD	TBD

Footnote: Total prior to FY 1999 is not reflected above because the program was funded in procurement through FY 1979. RDT&E funding began in FY 1980.